



PCT09

## RAW SEQUENCE LISTING

DATE: 12/11/2002

PATENT APPLICATION: US/09/719,379A

TIME: 09:35:49

Input Set : N:\Crf4\12022002\I719379.raw

Output Set: N:\CRF4\12112002\I719379A.raw

ENTERED

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1 <110> APPLICANT: Bakaletz, Lauren O.
2      Cohen, Joseph
3      Dequesne, Guy
4      Lobet, Yves
5 <120> TITLE OF INVENTION: Vaccine
6 <130> FILE REFERENCE: B45145
7 <140> CURRENT APPLICATION NUMBER: US/09/719,379A
8 <141> CURRENT FILING DATE: 2000-12-11
9 <150> PRIOR APPLICATION NUMBER: PCT/US99/11980
10 <151> PRIOR FILING DATE: 1999-05-28
11 <150> PRIOR APPLICATION NUMBER: GB 9812613.9
12 <151> PRIOR FILING DATE: 1998-06-11
13 <160> NUMBER OF SEQ ID NOS: 81
14 <170> SOFTWARE: FastSEQ for Windows Version 4.0
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 19
18 <212> TYPE: PRT
19 <213> ORGANISM: Haemophilus influenzae strain ntHi-10567RM
20 <400> SEQUENCE: 1
21      Arg Ser Asp Tyr Lys Phe Tyr Glu Ala Ala Asn Gly Thr Arg Asp His
22      1          5          10          15
23      Lys Lys Gly
25 <210> SEQ ID NO: 2
26 <211> LENGTH: 22
27 <212> TYPE: PRT
28 <213> ORGANISM: Haemophilus influenzae strain ntHi-1715MEE
29 <400> SEQUENCE: 2
30      Arg Ser Asp Tyr Lys Leu Tyr Asn Lys Asn Ser Ser Ser Asn Ser Thr
31      1          5          10          15
32      Leu Lys Asn Leu Gly Glu
33      20
35 <210> SEQ ID NO: 3
36 <211> LENGTH: 13
37 <212> TYPE: PRT
38 <213> ORGANISM: Haemophilus influenza strain ntHi-1729MEE
39 <400> SEQUENCE: 3
40      Arg Ser Asp Tyr Lys Phe Tyr Asp Asn Lys Arg Ile Asp
41      1          5          10
43 <210> SEQ ID NO: 4
44 <211> LENGTH: 19
45 <212> TYPE: PRT
46 <213> ORGANISM: Haemophilus influenzae strain ntHi-183NP
47 <400> SEQUENCE: 4

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48      Arg Ser Asp Tyr Lys Leu Tyr Asn Lys Asn Ser Ser Thr Leu Lys Asp
49      1                      5                      10                      15
50      Leu Gly Glu
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53 <211> LENGTH: 19
54 <212> TYPE: PRT
55 <213> ORGANISM: Haemophilus influenzae strain ntHi-1128
56 <400> SEQUENCE: 5
57      Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Ala Asn Gly Thr Arg Asp His
58      1                      5                      10                      15
59      Lys Lys Gly
61 <210> SEQ ID NO: 6
62 <211> LENGTH: 19
63 <212> TYPE: PRT
64 <213> ORGANISM: Non-typable Haemophilus influenzae
65 <220> FEATURE:
66 <221> NAME/KEY: VARIANT
67 <222> LOCATION: 16
68 <223> OTHER INFORMATION: Xaa = Any Amino Acid
69 <400> SEQUENCE: 6
W--> 70      Arg Ser Asp Tyr Lys Phe Tyr Glu Ala Pro Asn Ser Thr Arg Asp Xaa
71      1                      5                      10                      15
72      Lys Lys Gly
74 <210> SEQ ID NO: 7
75 <211> LENGTH: 19
76 <212> TYPE: PRT
77 <213> ORGANISM: Haemophilus influenzae strain ntHi-152NP
78 <400> SEQUENCE: 7
79      Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Ala Asp Gly Thr Arg Asp His
80      1                      5                      10                      15
81      Lys Lys Gly
83 <210> SEQ ID NO: 8
84 <211> LENGTH: 19
85 <212> TYPE: PRT
86 <213> ORGANISM: Haemophilus influenzae strain ntHi-1234MEE
87 <400> SEQUENCE: 8
88      Arg Ser Asp Tyr Lys Phe Tyr Asp Asp Ala Asn Gly Thr Arg Asp His
89      1                      5                      10                      15
90      Lys Lys Gly
92 <210> SEQ ID NO: 9
93 <211> LENGTH: 19
94 <212> TYPE: PRT
95 <213> ORGANISM: Haemophilus influenzae strain ntHi-90100RM
96 <400> SEQUENCE: 9
97      Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Glu Asn Gly Thr Arg Asp His
98      1                      5                      10                      15
99      Lys Lys Gly
101 <210> SEQ ID NO: 10
102 <211> LENGTH: 19

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Output Set: N:\CRF4\12112002\I719379A.raw

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103 <212> TYPE: PRT
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105 <400> SEQUENCE: 10
106   Arg Ser Asp Tyr Lys Phe Tyr Glu Val Ala Asn Gly Thr Arg Asp His
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111 <211> LENGTH: 19
112 <212> TYPE: PRT
113 <213> ORGANISM: Haemophilus influenzae strain ntHi-476
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115   Arg Ser Asp Tyr Lys Phe Tyr Glu Glu Ala Asn Gly Thr Arg Asp His
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117   Lys Lys Gly
119 <210> SEQ ID NO: 12
120 <211> LENGTH: 19
121 <212> TYPE: PRT
122 <213> ORGANISM: Haemophilus influenzae strain ntHi-166NP
123 <400> SEQUENCE: 12
124   Arg Ser Asp Tyr Lys Phe Tyr Asn Asp Ala Asn Gly Thr Arg Asp His
125       1             5             10             15
126   Lys Lys Ser
128 <210> SEQ ID NO: 13
129 <211> LENGTH: 19
130 <212> TYPE: PRT
131 <213> ORGANISM: Haemophilus influenzae strain ntHi-1848NP
132 <400> SEQUENCE: 13
133   Arg Ser Asp Tyr Lys Phe Tyr Glu Val Ala Asn Gly Thr Arg Asp His
134       1             5             10             15
135   Lys Lys Ser
137 <210> SEQ ID NO: 14
138 <211> LENGTH: 19
139 <212> TYPE: PRT
140 <213> ORGANISM: Haemophilus influenzae strain ntHi-567
141 <400> SEQUENCE: 14
142   Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Ala Asn Gly Thr Arg Asp Arg
143       1             5             10             15
144   Lys Thr Gly
146 <210> SEQ ID NO: 15
147 <211> LENGTH: 19
148 <212> TYPE: PRT
149 <213> ORGANISM: Haemophilus influenzae strain ntHi-484
150 <400> SEQUENCE: 15
151   Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Ala Asn Gly Thr Arg Lys His
152       1             5             10             15
153   Lys Glu Gly
155 <210> SEQ ID NO: 16
156 <211> LENGTH: 19
157 <212> TYPE: PRT

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TIME: 09:35:49

Input Set : N:\Crf4\12022002\I719379.raw

Output Set: N:\CRF4\12112002\I719379A.raw

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158 <213> ORGANISM: Haemophilus influenzae strain ntHi-10559RM
159 <400> SEQUENCE: 16
160     Arg Ser Asp Tyr Lys Leu Tyr Glu Val Ala Asn Gly Thr Arg Asp His
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164 <210> SEQ ID NO: 17
165 <211> LENGTH: 19
166 <212> TYPE: PRT
167 <213> ORGANISM: Haemophilus influenzae strain ntHi-601
168 <400> SEQUENCE: 17
169     Arg Ser Asp Tyr Lys Phe Tyr Glu Val Ala Asn Gly Thr Arg Asp His
170         1             5             10             15
171     Lys Gln Ser
173 <210> SEQ ID NO: 18
174 <211> LENGTH: 19
175 <212> TYPE: PRT
176 <213> ORGANISM: Haemophilus influenzae strain ntHi-226NP
177 <400> SEQUENCE: 18
178     Arg Ser Asp Tyr Lys Phe Tyr Glu Glu Ala Asn Gly Thr Arg Asp His
179         1             5             10             15
180     Lys Arg Ser
182 <210> SEQ ID NO: 19
183 <211> LENGTH: 19
184 <212> TYPE: PRT
185 <213> ORGANISM: Haemophilus influenzae strain ntHi-480
186 <400> SEQUENCE: 19
187     Arg Ser Asp Tyr Lys Phe Tyr Glu Asp Ala Asn Gly Thr Arg Glu Arg
188         1             5             10             15
189     Lys Arg Gly
191 <210> SEQ ID NO: 20
192 <211> LENGTH: 19
193 <212> TYPE: PRT
194 <213> ORGANISM: Haemophilus influenzae strain ntHi-1657MEE
195 <400> SEQUENCE: 20
196     Arg Ser Asp Tyr Lys Phe Tyr Glu Val Ala Asn Gly Thr Arg Glu Arg
197         1             5             10             15
198     Lys Lys Gly
200 <210> SEQ ID NO: 21
201 <211> LENGTH: 19
202 <212> TYPE: PRT
203 <213> ORGANISM: Haemophilus influenzae strain ntHi-214NP
204 <400> SEQUENCE: 21
205     Arg Ser Asp Tyr Lys Phe Tyr Glu Val Pro Asn Gly Thr Arg Asp His
206         1             5             10             15
207     Lys Gln Ser
209 <210> SEQ ID NO: 22
210 <211> LENGTH: 19
211 <212> TYPE: PRT
212 <213> ORGANISM: Haemophilus influenzae strain ntHi-250NP

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## RAW SEQUENCE LISTING

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TIME: 09:35:49

Input Set : N:\Crf4\12022002\I719379.raw

Output Set: N:\CRF4\12112002\I719379A.raw

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213 <400> SEQUENCE: 22
214   Arg Ser Asp Tyr Lys Arg Tyr Glu Glu Ala Asn Gly Thr Arg Asn His
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219 <211> LENGTH: 19
220 <212> TYPE: PRT
221 <213> ORGANISM: Haemophilus influenzae strain ntHi-499
222 <400> SEQUENCE: 23
223   Arg Ser Asp Tyr Glu Phe Tyr Glu Ala Pro Asn Ser Thr Arg Asp His
224       1             5             10             15
225   Lys Lys Gly
227 <210> SEQ ID NO: 24
228 <211> LENGTH: 21
229 <212> TYPE: PRT
230 <213> ORGANISM: Haemophilus influenzae strain ntHi-492
231 <400> SEQUENCE: 24
232   Arg Ser Asp Tyr Lys Leu Tyr Asn Lys Asn Ser Ser Asn Ser Thr Leu
233       1             5             10             15
234   Lys Asn Leu Gly Glu
235               20
237 <210> SEQ ID NO: 25
238 <211> LENGTH: 21
239 <212> TYPE: PRT
240 <213> ORGANISM: Haemophilus influenzae strain ntHi-502
241 <400> SEQUENCE: 25
242   Arg Ser Asp Tyr Lys Leu Tyr Asp Lys Asn Ser Ser Ser Asn Thr Leu
243       1             5             10             15
244   Lys Lys Leu Gly Glu
245               20
247 <210> SEQ ID NO: 26
248 <211> LENGTH: 20
249 <212> TYPE: PRT
250 <213> ORGANISM: Haemophilus influenzae strain ntHi-165NP
251 <400> SEQUENCE: 26
252   Arg Ser Asp Tyr Lys Leu Tyr Asn Lys Asn Ser Ser Asn Thr Leu Lys
253       1             5             10             15
254   Asp Leu Gly Glu
255               20
257 <210> SEQ ID NO: 27
258 <211> LENGTH: 20
259 <212> TYPE: PRT
260 <213> ORGANISM: Haemophilus influenzae strain ntHi-495
261 <400> SEQUENCE: 27
262   Arg Ser Asp Tyr Lys Leu Tyr Asn Lys Asn Ser Ser Asp Ala Leu Lys
263       1             5             10             15
264   Lys Leu Gly Glu
265               20
267 <210> SEQ ID NO: 28

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/11/2002  
PATENT APPLICATION: US/09/719,379A      TIME: 09:35:50

Input Set : N:\Crf4\12022002\I719379.raw  
Output Set: N:\CRF4\12112002\I719379A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; Xaa Pos. 16

**VERIFICATION SUMMARY**

DATE: 12/11/2002

PATENT APPLICATION: US/09/719,379A

TIME: 09:35:50

Input Set : N:\Crf4\12022002\I719379.raw

Output Set: N:\CRF4\12112002\I719379A.raw

L:70 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0